REMARKS

Claims 20-28 are pending in this application. By this Amendment, claims 1-3, 5-7, 9-11, 13 and 16-19 are canceled and claims 20-28 are added. Support for claims 20-28 can be found, for example, in originally filed claims 5-8, 13-15, 17 and 19 and page 5 of the originally filed specification. No new matter is added.

The courtesies extended to Applicant's representative by Examiners Vilakazi and Cronin at the interview held August 26, 2009 are appreciated. During the personal interview, Applicant's representative discussed the patentability of the previously pending claims.

Claims 1, 5, 9, 13 and 16-19 are rejected under 35 U.S.C. §112, second paragraph. Claims 1-3, 5-7, 9-11, 13 and 16-19 are rejected under 35 U.S.C. §103(a) over Shomura (U.S. Patent No. 6,170,465), in view of Ishikawa et al. (U.S. Patent No. 6,975,934), Mashiki (U.S. Patent No. 6,176,220), Sugiyama et al. (U.S. Patent No. 6,792,901), and Maloney (U.S. Patent No. 6,481,273). The previously pending claims have been canceled, rendering these rejections moot.

Claim 20 recites injection amount control means for changing a fuel injection amount for a particular one of the cylinders from an injection amount for stoichiometric operation to either an increased amount or a decreased amount. Shomura, the closest reference of all the previously applied references, fails to have disclosed or rendered obvious this feature.

Shomura discloses a device that calculates rotation speed change between successive explosion strokes when changing a fuel injection amount for all of the cylinders. The device disclosed in Shomura does not change a fuel injection amount for a particular one of the cylinders. According to Shomura, combustion state of each one of the cylinders is judged based on the calculated rotation speed change. The judgment of combustion state is a relative evaluation among the cylinders and is not an evaluation based on absolute criteria.

With the above-referenced features of claim 20, by changing the fuel injection amount for a particular one of the cylinders while keeping the fuel injection amount of remaining one of the cylinders at the injection amount for stoichiometric operation, it is possible to judge the gap between a critical intake air amount and the intake air amount in the particular one of the cylinders based on the torque or rotation speed change amount that occurs when the fuel injection amount for the particular one of the cylinders is changed.

Thus, Shomura does not disclose, nor would it have rendered obvious, the above-referenced features of claim 20. Further, Shomura does not have the above-described advantages. None of the other references applied throughout prosecution overcome the deficiencies of Shomura. Thus claim 20 is patentable over the references applied throughout prosecution.

Claims 21-25 are patentable by reason of their dependency from independent claim 20.

Claim 26 recites a first injection amount control means for changing the fuel injection amount for a particular one of the cylinders from an injection amount for stoichiometric operation to an increased amount; second injection amount control means, which, when the torque or rotation speed change amount determined by the first computation means is not greater than a predetermined reference value, decreases the fuel injection amount for the particular one of the cylinders from the injection amount for stoichiometric operation. Claim 27 recites an injection amount control unit for changing a fuel injection amount for a particular one of the cylinders from an injection amount for stoichiometric operation to either an increased amount or a decreased amount. And claim 28 recites a first injection amount control unit for changing the fuel injection amount for a particular one of the cylinders from an injection amount for stoichiometric operation to an increased amount; a second injection amount control unit, which, when the torque or rotation speed change amount determined by

the first computation unit is not greater than a predetermined reference value, decreases the fuel injection amount for the particular one of the cylinders from the injection amount for stoichiometric operation. Independent claims 26, 27 and 28 are patentable at least for the same reasons as independent claim 20.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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Attachment:
Petition for Extension of Time

Date: December 9, 2009

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